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**The Importance of Place, Space and  
Culture in the Development of an Industrial  
Agglomeration in Ireland:  
*The Furniture Industry in Co. Monaghan***

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# **THE IMPORTANCE OF PLACE, SPACE AND CULTURE IN THE DEVELOPMENT OF AN INDUSTRIAL AGGLOMERATION IN IRELAND: The Furniture Industry in Co. Monaghan**

## **ABSTRACT**

This article examines place, space and culture as factors in the development of industrial agglomerations. We argue that they are important concepts for industrial analysis which have, in part, been omitted by traditional neo-classical economists. We show the applicability of the framework in an investigation of the wooden furniture industrial district in County Monaghan, Ireland. The conclusion is that geographical location and concentration, external linkages with markets and suppliers, and the local entrepreneurial culture or professional milieu all provide pointers to the understanding of this industrial development. We briefly suggest that this conclusion may also apply to global industries.

## INTRODUCTION

This paper outlines some of the reasons why the issues of place, space and culture have been omitted from mainstream economic research and presents industrial district research that incorporates the importance of all three factors. In this paper place relates to the local area in which firms are located, space is the wider arena within which firms produce (this can be national or international depending on the firms), and culture encompasses the important links between firms and society and the nature of the social milieu. The second part of the paper provides a case study which outlines the importance of each of these three factors and shows the need for broad ranging regional research. In the conclusion, we show the relevance of the approach for other industries.

Place, space and culture are not issues that have traditionally been studied by economists. The primary reason for this is the predominance in economics of neo-classical theories. Among the foundation stones of neo-classical theory is methodological individualism; the individual consumer and the decision maker in the individual firm and their rational choices are of primary concern. Theory with such underlying assumptions will, as Dosi (1995) points out, tend to select units of analysis very different from those of 'purely "functionalist" or holistic theories of collective dynamics'<sup>1</sup>. For methodological individualism, society and culture can be ignored - except, perhaps, as results.

Other writers also call for a departure from neo-classical assumptions. Granovetter (1985, p.482) argues that 'the behavior and institutions to be analyzed are so constrained by ongoing social relations that to construe them as independent is a grievous misunderstanding'. Grabher (1993, p.4) similarly writes of the embedded firm which he defines as one in which 'economic actions and outcomes like all social action and outcomes, are affected by actors' dyadic relations and by the structure of the overall network of relations'. According to Granovetter, some efforts have more recently been made by economists to include society and its influence in their analysis. He would argue that many have now gone to the other extreme and have become 'over-socialized', expecting dominant social values to determine the economic behaviour of individuals.

There are some recent examples of economic studies which incorporate various aspects of social interaction, such as trust, without being 'over-socialized'. Lorenz (1999), Semlinger (1991) and Sako (1992) all show that trust, although not a calculable factor in economic interactions, has an important impact on relations between firms. It can, for example, improve quality of product and rate of innovation (Lorenz, 1988). The implication of the focus on trust is that individual behaviour that is influenced by social factors becomes defined as rational whereas the same behaviour in the absence of trust would not be seen as such. Asymmetric information and bounded rationality which may make transactions difficult are offset by trust. A sub-contractor may not have all the information that the client firm has, and may in some situations have appropriate concern about the fulfilment of the contract, but, where there is trust between the parties, then such concerns are obviated. In a region where there is a social milieu which encourages trust, firms will rationally incorporate this into their decision making.

Other important aspects of traditional neo-classical economics which preclude the study of place are the assumptions of constant returns to scale and perfect competition. Increasing returns to scale at the level of the plant provides an incentive for producers to concentrate their activity. According to Krugman: 'Unexhausted economies of scale at the level of the firm necessarily undermine perfect competition; and in the 1950s and 1960s there were no tractable models of imperfect competition'. He goes on to state that 'the reason why [spatial economics] has finally made it into the economic mainstream is therefore obvious: imperfect competition is no longer regarded as impossible to model' (1998, p.163). It is notable that his definition of spatial economics is 'where economic activity takes place and why' - features of what we have called place. Krugman appears to be referring to the location of a single large firm. Using Marshall's distinction between internal and external economies of scale suggests the extension of this argument to groups of firms.

A group of researchers and academics which we may classify as Economic Geographers has opened up the issues of place, space and culture, perhaps most obviously in the theory of industrial districts. Industrial districts are 'geographically defined productive systems, characterised by a large number of firms that are

involved at various stages, and in various ways, in the production of a homogeneous product' (Pyke et al 1992, p.2). It is clear that geographical concentration is primary in the description of an industrial district.

The concept of an industrial district was first presented by Marshall in the late nineteenth century in his studies of regions such as Staffordshire in England. However the term industrial district is now most closely associated with spatial concentrations of industries in the 'third Italy'. The third Italy is a region which researchers in the 1970s recognised as experiencing much more rapid growth than the rest of the country and continuing growth or stability during periods when, in particular, the industrialised north of Italy experienced downturns. It is also this research in the 1970s that introduced the importance of cultural aspects, or what became known as a social milieu, in the development and success of these districts. A social milieu is a strong community of individuals, families and firms which is bound together by a 'socio-cultural identity and trust' (Schmitz, 1993, p.26). According to Becattini (1990, p.102-114) 'there is a network of values and institutions which is invisible to the economist, but quite visible to the sociologist and the anthropologist, and which holds society together and makes it a sort of community'. Often what it is that binds these communities together has been identified as a common background or belief, for example a regional political consensus. All this makes for intense interaction, both co-operative and competitive, among the firms in the district, based on high levels of trust. This is an example of what has been called the "associational economy" (Cooke and Morgan, 1998).

In the 1980s this work was brought to an English speaking audience through the writings of Piore and Sabel (1984); in the 1990s there emerged a wide variety of studies of regions identified as industrial districts throughout the US (Saxenian, 1985, 1994), South America (Schmitz, 1993; Rabellotti, 1994, 1995) Asia (Cho, 1994; Lee, 1995), Africa (Sverrisson, 1992; Dawson, 1992) and elsewhere in Europe (Schmitz, 1990; Isaksen, 1994; Kristensen, 1990). Much of the work on industrial districts comprised case studies in which researchers began with a list of common characteristics of such districts and then tried to match them to the area they were studying. In some cases a social milieu was not recognisable and in few cases were the identified districts all the same. Camagni and Capello (1988), using Sforzi's case

studies of 60 districts, find that 'significant differences exist' among them even though they were all identified as industrial districts (see Amin and Robins, 1990, p.197). More recently Lazerson and Lorenzoni (1999) refer to differences among Italian industrial districts in terms of the various combinations of market and hierarchy in relations between firms.

Some criticised the industrial district literature for being too concerned with localisation at a time when globalisation is increasingly important. Amin and Robins (1990, p.115) believe 'the local economy can only be seen as a node within a global economic framework'. Similarly Schmitz (1995, p.556) believes that the literature on industrial districts 'is strong on linkages internal to the cluster but weak on external linkages' (see also Lazerson and Lorenzoni, 1999). Thus the criticism is that the industrial district literature concentrates on place at the expense of space, if we take space to be the wider geographical region in which the districts' industries operate.

This is a valid criticism which underlines a key factor in the work on industrial districts; the success of the third Italian districts led to a search for similar industrial systems (and/or for characteristics that could lead to similar industrial systems) elsewhere. This resulted in a focus on the internal workings of the region being studied as researchers tried to identify characteristics most commonly associated with an industrial district. While industrial district research may have been perceived as (and indeed in some cases, particularly in the early stages, was) promoting self-contained regional development, close scrutiny of the industrial districts identified shows this that they are not self-contained. At the very least every industrial district is dependent upon the national, or more often the global market. Often local production inter-links with global markets. Much of the literature has ignored non-local linkages (though see Lazerson and Lorenzoni, 1999) and where it has not, there has been a suggestion that the emergence of such linkages was indicative of the decline or failure of the district (in particular Harrison, 1994).

While there had been criticisms of the idea of industrial districts as stand alone local economies it was only in the mid-1990s that any effort was made to address this issue. Park and Markusen (1995), Park (1996) and Markusen (1996) distinguish between sticky places and slippery spaces and develop types of industrial district.

The main emphasis in this categorisation is the distinction between activity which is internal and activity which is external to the district. There are nine types of district outlined by Park (1996). They include: a) those where there are 'extensive local suppliers' and customers' networks and only limited non-local networks; b) the satellite type 'which have extensive nonlocal suppliers' and customers' networks with only limited local networks'; and c) 'hub and spoke' districts which have both extensive local and external linkages. These types of local production systems are to varying extents linked to a wider market or production space. In this way space has become an issue in the literature on industrial districts.

While the work of these authors has significantly contributed to the industrial district literature, its weakness lies in the fact that their definition of industrial districts is much wider than that of most other researchers. According to Markusen, her paper identifies three additional types of industrial district; throughout the article, however, what she is actually referring to are 'sticky places', defined as those 'which sustain their attractiveness to both capital and labour' (1996, p.293). These places do not necessarily have the characteristics of an industrial district as defined by Pyke, for example. Primary features of an industrial district as so defined are that there is a social milieu and intense interaction among firms. In the 'satellite' type of industrial district 'its most conspicuous feature is the absence of any connections or networks within the region and the predominance of links to the parent corporation and other branch plants elsewhere' (Markusen, 1996, p.304); in the 'hub and spoke' districts 'markedly lacking is the cooperation among competitor firms to share risk, stabilize the market, and share innovation. Strategic alliances on the part of the larger firms are more apt to be forged with partners outside the region' (Markusen, 1996, p.303).

Rather than a taxonomy of industrial districts what Park and Markusen have developed is a taxonomy of industrial agglomerations. The success of their work is that it shows the importance of external, non-local, or what we have called 'space' factors in all industrial agglomeration research. Lazerson and Lorenzoni's (1999) very recent empirical work on the impact of extra-district firms on intra-district development also brings in the space factors, and to a much greater extent conforms to the usual definition of third Italian industrial districts.

In the late nineteenth century work on industrial districts, geographical concentration or 'place' was the primary characteristic. As the literature developed in the 1970s culture or a social milieu also became an important feature. Now in the 1990s the literature is also considering 'space' or external linkages and thus creating a link between the globalisation and localisation literatures.

In the remainder of this paper an Irish example of a local production system will be presented, the wooden furniture sector in Co. Monaghan. The case study will investigate the importance of place, space and culture in the development of this industry and in so doing will underline the limitations of both neo-classical and, to a lesser extent, industrial district approaches to local production systems.

## **THE WOODEN FURNITURE INDUSTRY IN CO. MONAGHAN**

### **Outline**

Co. Monaghan is located in the north east of Ireland on the border with Northern Ireland. It is the fifth smallest county in Ireland and has a population of 51,262. Traditionally agriculture has been the most important industry in this county and a local study in 1909 stated 'the occupations of the people are almost wholly agricultural, there being few industries and these of an unimportant character' (County Monaghan Year Book and Directory, 1909, p.39). However there were also cottage industries which were unrelated to agriculture. Between 1980 and 1990 the relative importance of agriculture continued to decline and by 1991 only 22.5 percent of Monaghan's labour force were directly employed in this sector (CSO, 1993). At the same time the number of industrial firms continued to grow.

The latest industrial Census (CSO, 1997) reports that there were 109 industrial establishments in Monaghan in 1995 employing 4,042 people. In terms of number of firms, the largest sector in Monaghan is timber and wooden furniture with 32 firms. The next highest concentrations are the metal and engineering, and food sectors<sup>2</sup> with 21 and 20 firms respectively (CSO, 1993<sup>3</sup>).

The wooden furniture industry in Monaghan is also important in national terms. After the two largest cities in Ireland, Dublin and Cork, Monaghan has the next highest



number of timber and wooden furniture firms located within its boundaries. The largest furniture firms in Ireland are located in Monaghan and they dominate the national industry's exports.

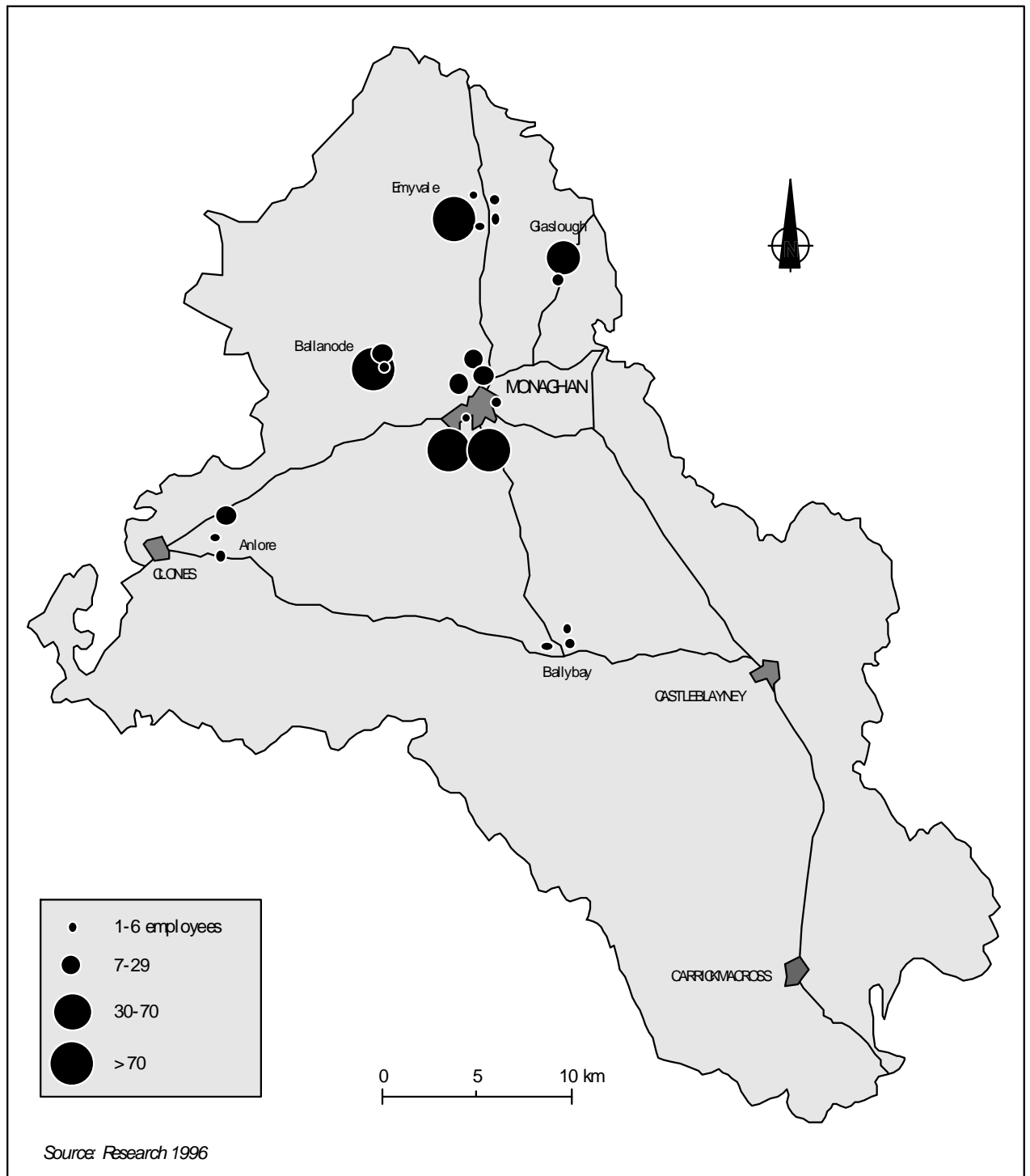
The manufacture of wooden furniture in this county can be traced back to 1801 where Coote reported that 'near Glennon is a thickly inhabited neighbourhood where about an hundred carpenters reside, who are constantly employed in furnishing the neighbouring fairs and markets with the several articles of country work and furniture; the adjoining wood supplies them with timber on very cheap terms' (1801, p.154). It seems that originally the industry may have developed close to a source of wood but that is no longer the case and all of the wood used in this industry is either imported or brought from the wood processing centre in Scariff in Co. Cork.

This sector manufactures a wide variety of bedroom and dining room furniture as well as fitted kitchens. Firms range in size from as few as two employees up to 147 and many are family run. Some pre-date the 1950s while others have only opened in the 1990s. Research on this sector identifies it as an industrial district (Mottiar, 1997; Jacobson and Mottiar, 1999) and as such place and culture have played an important part in the development and success of the industry. But as an industry which relies upon foreign markets for customers and raw materials it has strong external linkages also making space an important factor.

## **Place**

As already outlined there is a concentration of wooden furniture firms in Co. Monaghan; in fact there is on average one firm every four hectares. However these firms are even more confined than this; within a six mile semi-circle of Monaghan town there are some 22 such firms. Aside from Monaghan town, Emyvale which is about six miles north of the county's capital is the most densely populated area in terms of furniture firms, boasting six firms which employ almost half of the local population aged between 25 and 64 years (see Figure 1).

**Figur 1: Furniture Industrial District in County Monaghan, Ireland**



The location of these furniture firms within Co. Monaghan has been an important factor in the sector's development. As outlined above perhaps the original reason for the location of carpenters in this area was the afforestation but with this long gone

there are still advantages for firms setting up in this area. Firstly they are located on the border which provides them with easy access to the Northern Ireland market as well as that of the Republic, and close to the port of Larne which provides access to Northern Britain.

Secondly, there is a history of wooden furniture manufacturing firms in the area. This ensures a ready supply of labour<sup>4</sup> - what Marshall called hereditary skills whereby 'the mysteries of the trade become no mysteries; but are as it were in the air and children learn many of them unconsciously' (1898, p.350). It also facilitates co-operation as most of the owners know each other. This co-operation should not be overstated and it must be noted that it occurs in conjunction with competition. The most common form of co-operation is the lending of machinery, mainly hand tools; 11 firms (48 percent of respondents) say that they would do this often or occasionally. Other examples of informal co-operation involve the exchange of information. For example subtle co-operation occurs between two fireside chair manufacturers. According to one, each has its own customers and they 'do not step on each other's toes' in order to take business from each other. Furthermore if one gets an order from a new customer he phones his competitor to check that he has not stopped supplying that customer because of non-payment (Mottiar, 1997)<sup>5</sup>.

An example of more formal co-operation is the situation where two firms jointly manufacture one of the best known Irish ranges of furniture, the Rossmore range. Their jointly employed designer designs products for each firm which they both manufacture and then competitively sell on the same markets. Both of these types of co-operation (informal and formal) are associated with personal contacts. The owners know each other well enough and have dealt with each other sufficiently that there is mutual trust that accurate information will be given and that there will be no renegeing on deals. This trust may be a result of the personal relationships between owners created by frequent face-to-face contact of both a social and business nature, living near each other, and/or knowing each other - or at least each other's reputations - of old. Geographical concentration has created the right environment for trusting relations and thus encouraged inter-firm co-operation to develop.

There is also some evidence of vertical disintegration in this sector which is encouraged by the concentration of firms. One firm specialises in turning legs, another in the manufacture of doors for fitted kitchens, another two in fireside chair frames, one in manufacturing dining room chairs and yet another in carving occasional tables. The concentration of wooden furniture firms in the area allows some firms to specialise in particular stages of production. This improves efficiency and often the quality of products manufactured in the district.

The geographical concentration of firms encourages the continual emergence of new firms which has created new competitors, co-operators and sub-contractors. Marshall describes how firms are attracted to an area where there is a ready supply of skilled labour. In the case of Monaghan new firms are established here most often because having done apprenticeships in local firms, people set up their own firm in the same area where they live and have family and friends. In some cases these firms do not manufacture domestic furniture but instead engage in related areas like the manufacture of wooden shop fronts or wooden furniture for pubs and restaurants. In this way the sector is continually re-creating itself.

The place, Monaghan, has provided firms with easy access to markets in Northern Ireland and Britain. The concentration of firms in this place has encouraged the further development and emergence of firms, and facilitated inter-firm co-operation. Place, in a sense, has for this industry emanated from both the internal economies of scale associated with the growth of plants and firms, and the external economies of scale which have encouraged new firms to emerge in the proximity. Place factors, both in terms of where Monaghan is located within Ireland, and the geographical concentration of firms in this area, have both aided the development of this sector and facilitated its expansion.

## **Space**

It has generally been argued that for most industrial districts all, or most, of the inputs required in the industry are manufactured locally (though see Lazerson and Lorenzoni, 1999). The primary input for the furniture industry in Monaghan, wood, is purchased either from elsewhere in Ireland or abroad: some 46 percent of the wood which is required comes from elsewhere in Ireland and a further 46 percent from

abroad. Also, 83 percent of new machinery and 64 percent of second hand machinery is purchased abroad<sup>6</sup>. The sector is also highly export oriented and the biggest Irish wooden furniture exporters are located in Monaghan.

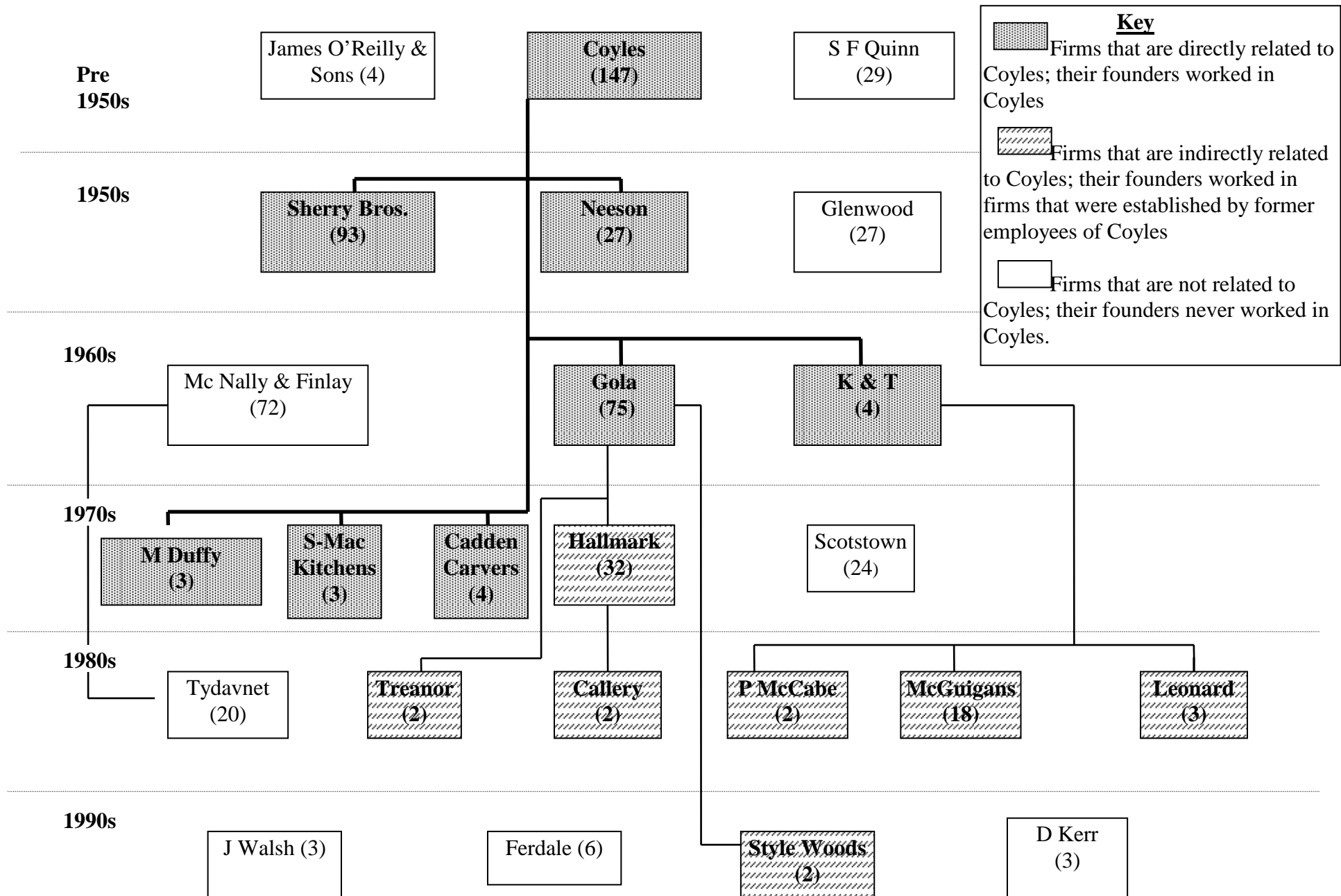
Thus the wooden furniture industry in Monaghan is not reliant on local inputs; the majority of inputs and machinery are purchased from elsewhere. However all stages in the **manufacture** of furniture are undertaken in the local area, some of them internally, within firms, and others sub-contracted out to specialist firms in the area. Thus it has both local and non-local linkages making it similar in some respects to what Park and Markusen (1996) call a 'hub and spoke' type of district.

This is a sector which is heavily influenced by external factors. This includes at a basic level the price and availability of raw materials, but as a sector which exports a large proportion of its output to the UK market it is also constantly aware of and influenced by tastes in this market. Initially the furniture produced was primarily reproduction furniture, copies of the furniture which was popular in the UK. In more recent years however there has been significant development in the standard and originality of designs as well as technology; five years ago a company in the UK did a reproduction of one of the larger Monaghan furniture company ranges.

There is in Monaghan a sectoral concentration in the manufacturing stages of production of wooden furniture and this local production system has both backward and forward national and global linkages. Such linkages show what we have called the importance of space.

It was adapting to changes in the British market that has allowed this sector to survive. With a small market in Ireland the only route to growth and success for the wooden furniture industry is via exports, a principle long espoused by the government agencies. The location of firms in Monaghan made these markets more accessible and their dependence on foreign markets has made the sector responsive to change. This was exhibited most clearly in the move to produce cherry veneered furniture about five years ago as it became more fashionable (May, 1995). The external linkages which the industry has, has made it more adaptive to change and provided a route for growth.

Figure 2: Genealogy of Furniture Firms in Monaghan



## **Culture**

As discussed above the existence of a social milieu was considered particularly important in the research on industrial districts in the 'third Italy'. This milieu facilitates and encourages trusting relations between firms and provides communication channels through which information can easily flow. Similar backgrounds or political beliefs have often been identified as the source of this common identity. One may have expected religion in the border county of Monaghan to be a unifying factor but this was not so. In fact the idea of a professional rather than social milieu (Scott, 1988a and b; Storper and Scott, 1988) is more appropriate for a discussion on the wooden furniture industry in Monaghan. It is the professional relations between individuals that creates a culture of co-operation, trust and information exchange which has been so important in the development and success of the sector.

The genealogical tree of the sector (Figure 2) shows how the firms in this sector are related. It shows that 75 percent of the furniture firms in Monaghan that responded<sup>7</sup> are either directly or indirectly related to Coyles, the largest and one of the oldest firms in the area. The owners of nine firms did their apprenticeship in Coyles before establishing their own firms, and a further nine firms are indirectly related in that their founders worked in firms owned by those who had originally done their apprenticeship in Coyles. This has similarities with other industrial districts, for example in Santiago (Wilson, 1992) and West Jutland (Kristensen, 1990), although unlike these regions there is little clear evidence in Monaghan of former employers aiding the new venture either financially or with guaranteed sub-contracting. An industry expert stated that if the person setting up the firm 'was a senior person they would be on their own, if it was somebody who was in their early twenties... there would be moral support'. However, as will be shown below, whether or not there are guarantees, some of the owners of small sub-contracting firms do get orders from their former employers, among others.

This means that many of the owners of these firms worked together at some stage in their working life. One owner said that when he worked for his previous employer there were 16 employees in total; now 14 of them had their own businesses in the area. Another reported that he knew two of the other owners because they had been

at school together. This creates a social network of owners of furniture firms similar to that described by Brusco (1982, p.178).

This professional milieu creates a culture whereby owners of firms exchange information and ideas, even if only to a limited extent. Sometimes this information is exchanged via employees chatting in a social setting and it is not always something the employer wants known. For example when a number of the larger firms employed a consultant who introduced piece rates that resulted in increased wages for the employees, within days the employees of another firm knew exactly what the differential was between the respective wage rates. Within a short space of time this firm introduced a similar scheme using the same consultant (Ryan, 1996).

The professional milieu has resulted in a certain level of trust between individuals as they know each other, either because they used to work together, they are neighbours, they went to school together or they attend the same church. This type of trusting relationship between firms has encouraged inter-firm co-operation, the flow of information and the use of sub-contractors.

In one case (which can be described as an example of 'putting out') a former employee of one of the larger firms has his own firm which manufactures occasional tables for his former employer. The new owner receives wood from his previous employer, he makes and carves the tables and the product is then collected by the larger firm's vans. In another case a firm was established by a former employee to turn wood which was sold to the firm that he used to be employed in. In another, a fitted kitchen manufacturer collects the doors which a sub-contractor manufactures for him.

The professional milieu that exists in this sector has aided its development and success in a number of different ways. Firstly, in some cases existing firms help and facilitate the emergence and expansion of new firms by providing them with business or support as described above. The research in Monaghan showed that 70 percent of respondents believed that to have worked in another firm in the sector was useful in order to succeed as an entrepreneur in the local industry. Secondly, the flow of information which is facilitated by the professional milieu means that the amount of



information and knowledge in the sector as a whole is greater than that concentrated within any one individual firm. Each firm gains from the new ideas of others and in turn their ideas benefit others in the district. 'In Prato, information on production techniques does diffuse widely and rapidly, because families live in the same social context and because apprentices move easily from one workshop to another' (Harrison, 1994, p.102). The research in Monaghan on which this article is based found that machinery suppliers, exhibitions, fairs, specialised publications, workers previously employed in other firms and social occasions are important sources of information for process innovation. While there is little evidence of this sector achieving high levels of innovation, the professional milieu aids the flow of information and thus the innovation that does exist.

## CONCLUSION

The wooden furniture industry in Monaghan owes much of its success to its geographical location and concentration, external linkages with markets and suppliers, and the local entrepreneurial culture or professional milieu. Traditional economic analysis would concentrate on the profit-maximising behaviour of firms as individual entities. What we have shown in relation to this industry is that it is the complex inter-relationship among different firms, of different sizes and production processes, that helps explain the success or failure of the group. There is, for example, a myriad of small firms which act as suppliers, sub-contractors, competitors, or manufacturers of other types of wooden furniture or products which together with the larger furniture manufacturers make up this industrial agglomeration. It is the community of firms and their interaction, as much as the activity of individual firms, which explains the success of this sector.

An industrial district approach has the advantage of investigating the region as a whole rather than individual firms. It has what in some cases may be a weakness, however, in that it pays little attention to the external environment (non-local linkages). This may be appropriate in some cases, but what emerges from the above analysis is that linkages between the local and the external can play a fundamental role in the development and success of the local industry. This is consistent with the findings of Lazerson and Lorenzoni (1999).

Many factors have contributed to the development of the furniture industry in Co. Monaghan; what we have shown is that including place, space and culture provides a more comprehensive explanation of the development and success of an industry than any factor individually. These factors are, moreover, mutually reinforcing. The concentration of firms has created the professional milieu. This, in turn, has encouraged the emergence of new firms in Co. Monaghan. Without external markets for this industry, the fertile environment of the place would not have resulted in the growth of the industry. Without the fertile environment in this place, the existence of export markets may have resulted in the growth of this industry elsewhere.

Is this general conclusion true for global industries, like steel, petrol and cars. Park (1996) writes that

Pohang and Ulsan [in Korea] are typical hub and spoke [industrial agglomerations]. A steel company is the hub in Pohang, while initially a petroleum plant and now an automobile plant are the hubs in Ulsan... The competitive advantage of the hub and spoke industrial districts in Korea mainly originated from economies of scale and factor conditions, such as the availability of cheap labour, the provision of cheap industrial land and the availability of capital through government financial support and foreign loans (p.488).

These factor conditions were basic attractions that brought industry to this particular place. Space was important as these goods were traded globally. Local networks and embeddedness, features of what we have classified as culture, were not evident. However, these

industrial districts have developed into advanced types, with increasing local networks and embeddedness. The appearance of spin-offs, the organization of co-operative subcontracting firms by the large branch plants and government support for co-operative small firms are the major forces in the evolution of this dynamic during the restructuring phase in the east Asian countries (p.490).

An increase in interactions among firms, potentially leading to an intensification of the importance of the cultural factor can, therefore, occur.

Although place, space and culture may not be equally important in the development of an industry at any particular time, and one or more of them may change in importance over time, these concepts have been shown to be useful in explaining industrial development. The very difference in the degree of importance of the three factors, and the way that changes over time, may be of importance in comparing industries and, ultimately, explaining success.

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<sup>1</sup> What Dosi (1995) calls for, in a sense, is research that attempts to work between the two methodological extremes.

<sup>2</sup> Particularly important in the food sector are the mushroom and poultry industries

<sup>3</sup> This is the last year in which the Census of Industrial Production provided this information exclusively for furniture.

<sup>4</sup> although some in the industry say that this is lessening with the increased emphasis on third level education in Ireland.

<sup>5</sup> Other details on the furniture industry are all from the same source, unless otherwise specified.

<sup>6</sup> It should be noted that while components such as wood and machinery may be purchased from domestic firms the products themselves may be manufactured outside the country.

<sup>7</sup> These responses represent some 78 percent of the total number of wooden furniture firms in the county.